Problem K: The Grail Trials (I)

Indy and his father reach the resting place of the Grail, but Henry is mortally wounded by Indy's rivals! Indy finds himself forced to recover the Grail to save his father, and to do that he needs to pass a series of dangerous trials. Now Indy's only alternative is to succeed where many others have failed before him.

The first trial is *The Breath of God*. As Indy approaches the small corridor that leads to the Grail, he sees decapitated bodies on the floor...

Figure 1: The breath of God: only the penitent man will pass

With the help of Henry's diary, Indy has a small clue as to what this trial is about. At the last moment, he kneels down and jumps, as two large blades come from the sides of the corridor.

The blades are placed one in front of the other, and they are setup such that each blade springs from one wall with an angle that makes it touch the corner where the opposite wall meets the floor.

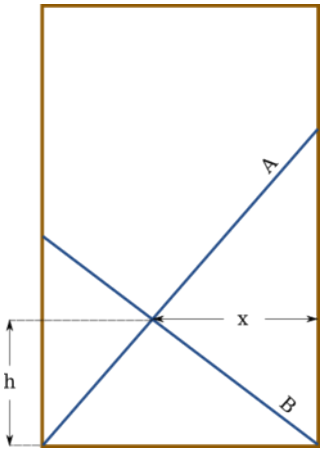

Figure 2: Front view of the corridor and the blades

When seen from the front, there is a point where the blades seem to intersect. Indy chooses to jump through the region where there is a larger distance from the intersection point to a wall.

The length of the blades are denoted **A** and **B**. Given A, B, and the height of the intersection point (**h**), determine the horizontal distance from that point to the farthest wall (**x**).

Input

Input starts with a positive integer **T**, that denotes the number of test cases ($T \leq 1000$).

Each test case contains three floating point numbers: **A**, **B** and **h**. All of them will have two digits after the decimal point.

$0 < A, B, h \leq 1000.00$

You can assume that all data correspond to valid geometrical models.

Output

For each test case, print the case number, and then print the distance from the intersection point to the farthest wall, **x**. Print the result as a floating point number with exactly three digits after the decimal point.

Sample Input

```
3
300.00 350.42 131.41
280.90 170.10 50.20
400.00 400.00 132.28
```

Output for Sample Input

```
Case 1: 103.592
Case 2: 123.570
Case 3: 150.007
```